



AI's Impact on the Workplace & Workforce Development

Dr. Lane Freeman

NC Community College System



Introductions



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AI Avatars



AI Avatar – Chinese Translation (HeyGen)

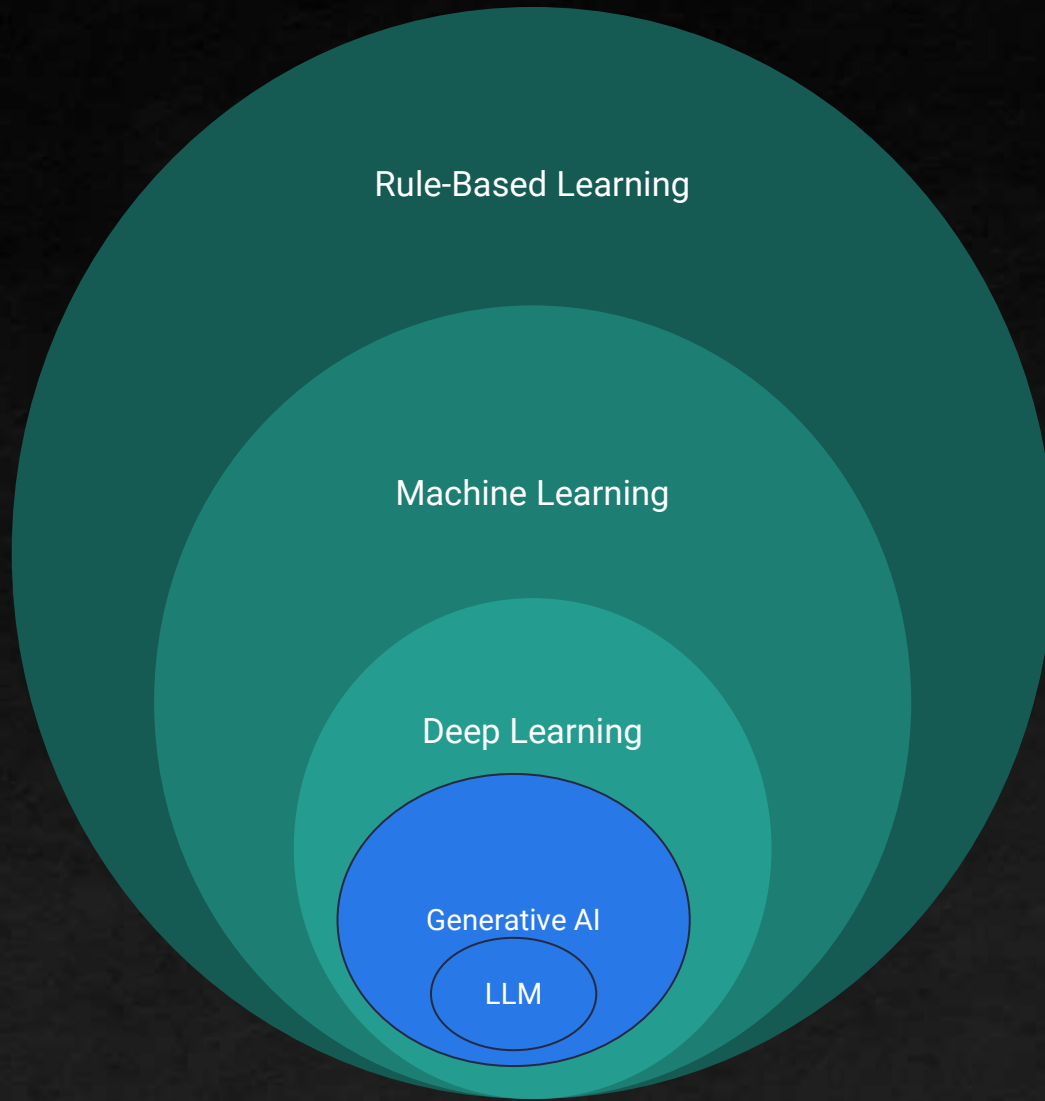




Lorraine Boucher Lane's Digital Assistant

- Designed within ChatGPT's Custom Instructions
- Daughter to Bobby Boucher and Vicki Vallencourt
- Bachelor's Degree in Business Administration from Louisiana State University
- MBA from Tulane University's School of Business

Generative AI



- Creates new content by learning from vast datasets, mimicking human creativity.
- Self-Learning Capability: AI continuously improves by analyzing and predicting data patterns.
- Diverse Applications: Used in writing, art, coding, and simulating complex human tasks.

AI'S PROVEN IMPACT ON PRODUCTIVITY AND WORKFORCE READINESS

Microsoft's 2024 Work Trend Index

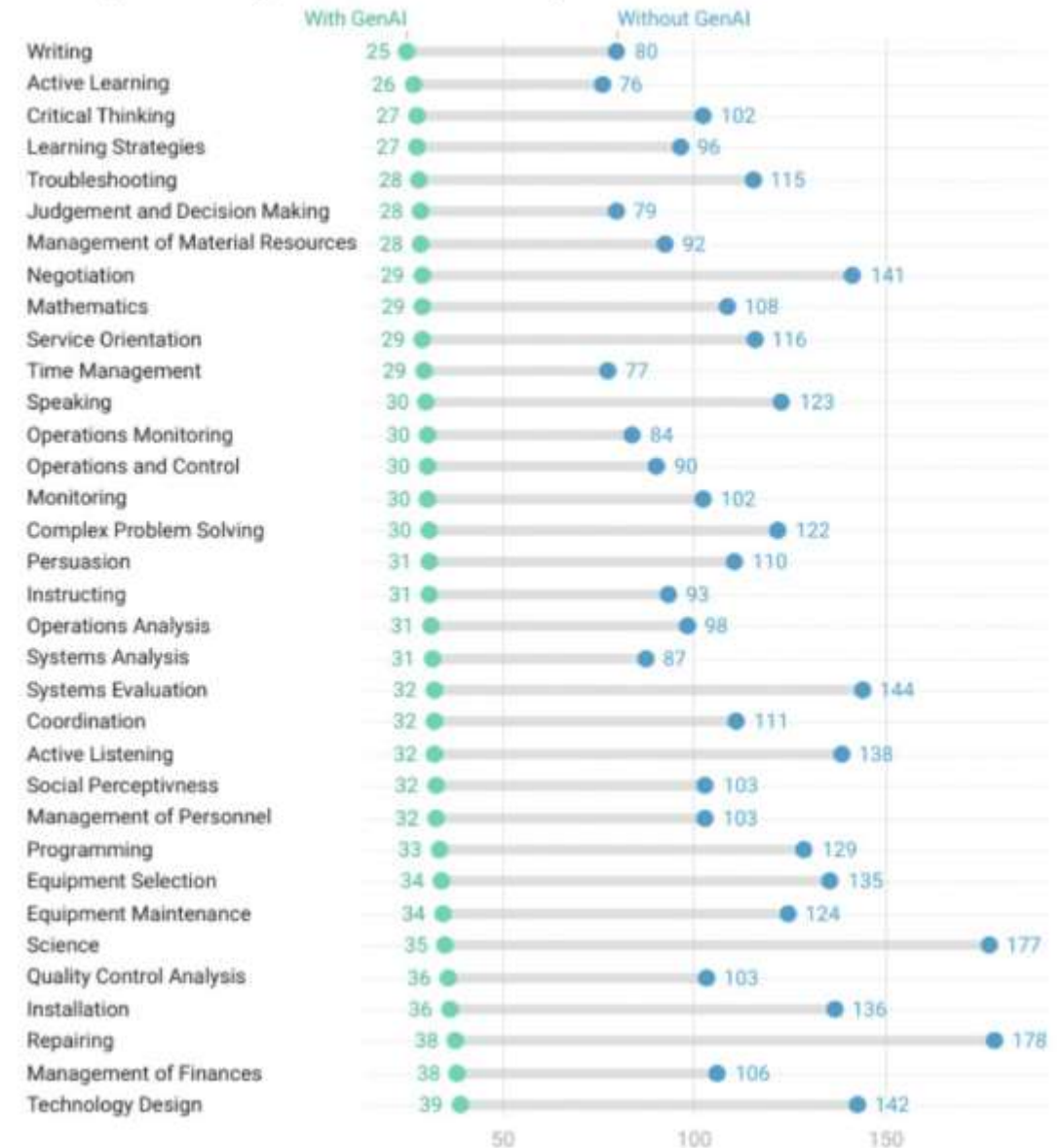
- 75% of knowledge workers use AI in daily tasks.
- 66% of employers prefer candidates with AI skills ***even if they have less experience than someone without those skills***



AI and the Future of Work: Labor Market Impacts

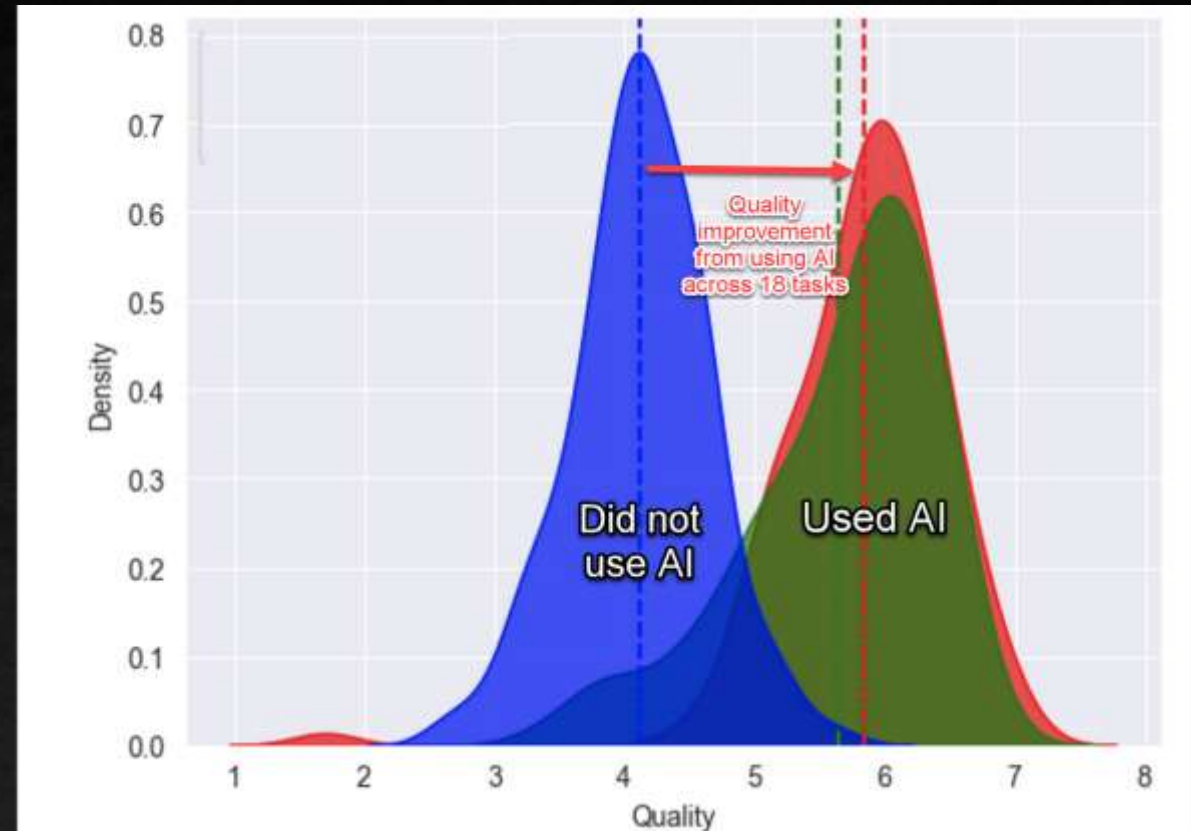
- Develop survey to analyze Generative AI use in labor market.
- Younger, educated, higher income individuals use Generative AI most.
- 30.1% of adults used Generative AI at work (Dec 2024).
- Estimates intensive usage, efficiency gains, and job search applications.
- Examines LLM effects on productivity and the labor market.
- Findings guide policymakers, businesses, and researchers globally.

Figure 11: Average number of minutes to complete a task with and without Generative AI



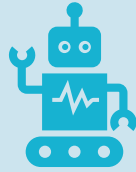
AI Proficiency: A Highly Valued Skill in the Modern Workforce

- AI use led to 12.2% more tasks completed.
- Tasks done 25.1% faster.
- Experience a 40% increase in work quality.
- This boost was achieved using the standard GPT-4 model without any specialized training or tuning.



<https://www.oneusefulthing.org/p/centaurs-and-cyborgs-on-the-jagged>

Adapting to a Transforming Landscape



AI is good at tasks, not careers



A Content Expert Required.



“AI will not replace you. Someone using AI will.”

July 17, 2023

Chatbot vs Medical Student Performance on Free-Response Clinical Reasoning Examinations

Eric Strong, MD¹; Alicia DiGiammarino, MS²; Yingjie Weng, MHS³; [et al](#)

[» Author Affiliations](#)

JAMA Intern Med. 2023;183(9):1028-1030. doi:10.1001/jamaintern-med.2023.2909



Editorial
Comment



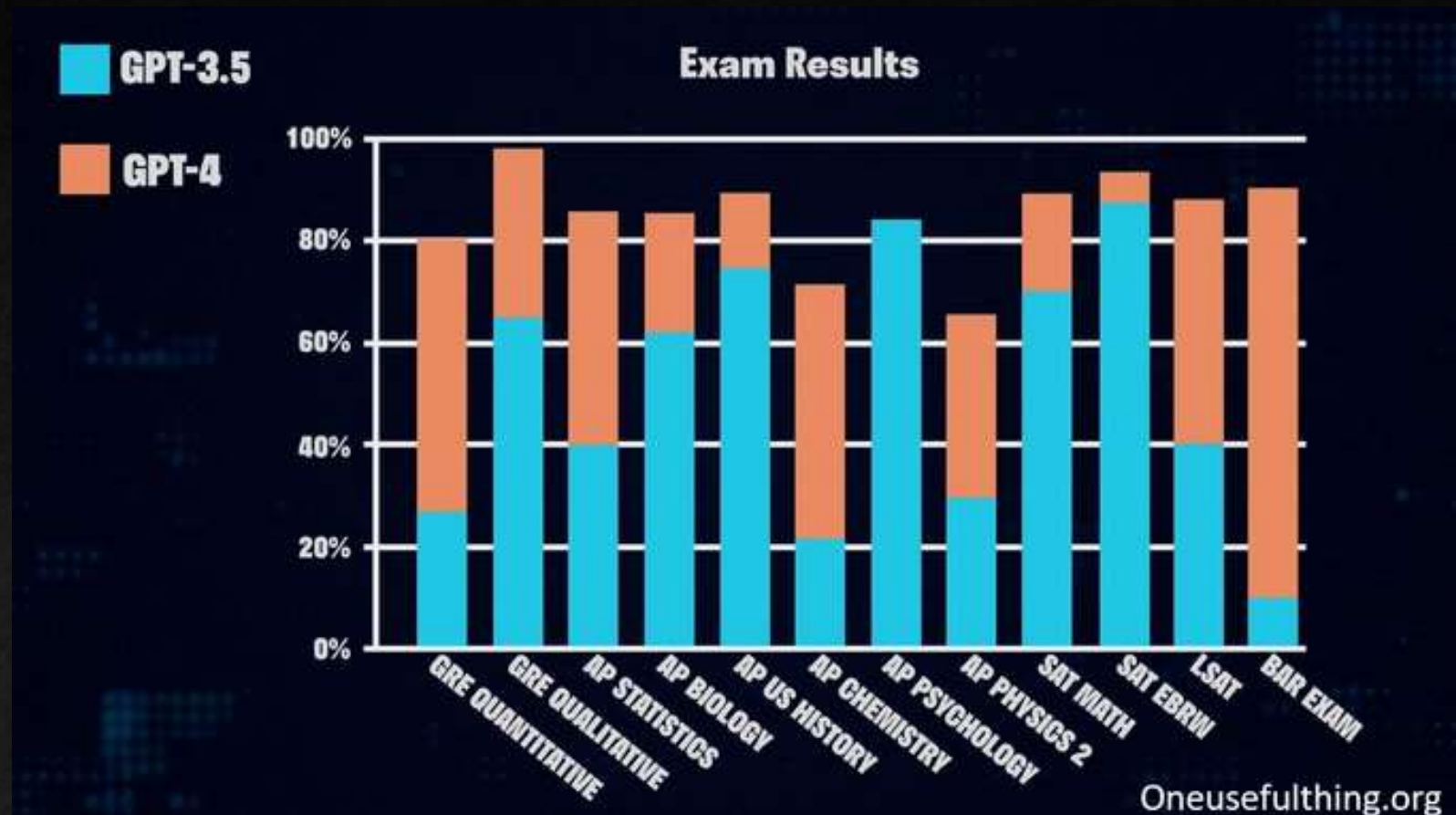
Related
Articles

A popular chatbot is an interface for the generative pretrained transformer (GPT) large language model artificial intelligence (AI) system that generates humanlike text in response to user input.¹ An upgrade from the initial chatbot to a newer model was evaluated, and it exceeded the passing threshold for multiple-choice questions that simulate the US Medical License Examinations.² This cross-sectional study examined how well the chatbot responded to free-response, multiphase, case-based questions that better reflect real-life synthesis and application of data with broader implications for the instruction and assessment of clinical reasoning. Using clinical reasoning final examinations given to first- and second-year students at Stanford School of Medicine, we compared performance of students vs 2 chatbot models.

ChatGPT 4's Performance

- 🧠 Outscored 2nd year Stanford Med students in clinical case exams
- 🧠 Does differential diagnosis at least as well as the best current tools
- 🧠 Its answers “preferred over physician responses & rated significantly higher for both quality & empathy”

The AI Today
is the worst
version of AI
you'll
encounter



Text to Video — Google's Veo 3

Prompt: Create a video clip of a young Continental Army soldier at the Victory of Yorktown in 1781. He is holding a selfie stick and an iPhone, excitedly making a social media post to announce the end of the Revolutionary War. The background shows surrendered British troops, scattered cannons, and American flags waving. The soldier is smiling, slightly dirty from battle, and animatedly says: “Yo, it’s official—it’s a wrap, Redcoats! Cornwallis just threw in the towel. We out here at Yorktown, and freedom’s never looked so good. Six years of fightin’ and we finally did it. America’s about to glow up, y’all. Drop a like for liberty!” End with him giving a quick fist pump and a triumphant “Let’s gooo!” The vibe is celebratory, upbeat, and proud—like he just helped change history.

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Text to Video – Google's Veo 3



Why AI Adoption Should Not Be Optional



Compare and contrast the three images: What differences do you notice in the tools, the user's approach, and the outcomes? How might these differences reflect the way employees engage with AI — whether unprepared, misusing it, or using it effectively?"

Before You Start with AI



**Protect
Personal
Information**



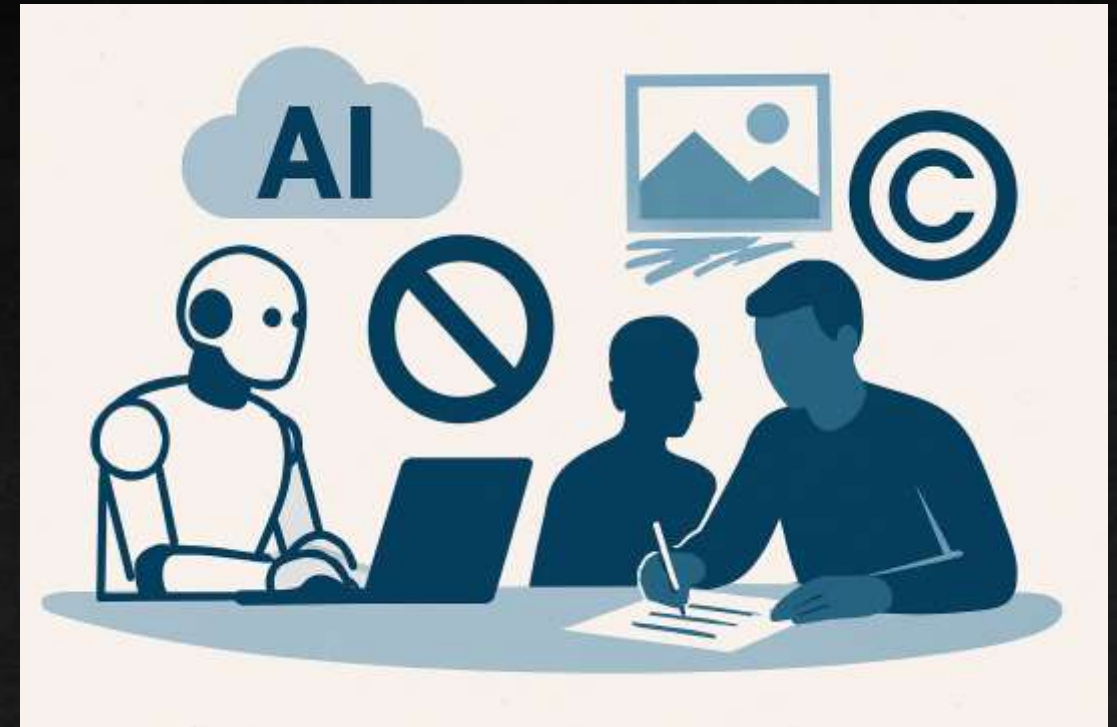
**Remember AI
Hallucinates**



**Maintain
Digital
Citizenship**

Can AI Work Be Copyrighted?

- AI alone can't own copyright – Only humans can
- If AI makes it all – It's not protected by law
- If a person shapes it – Their parts can be copyrighted
- You must add real human creativity – Not just a prompt
- Example: Editing, combining, or creatively arranging AI output



Randy Travis – “Where That Came From”





Sources



Select all sources



📄 Pasted Text



* Notebook guide

Help me create



FAQ



Study Guide



Table of Contents



Timeline



Briefing Doc

Audio Overview



Generating conversation...

This may take a few minutes. No need to stick around!

Summary

This excerpt is a script for a lesson plan designed to introduce students to the basic principles of physics, specifically Newton's Laws of Motion. The lesson incorporates examples relevant to North Carolina, such as fishing on the Outer Banks, Carolina Panthers football games, and beaches in Wilmington. The script encourages hands-on activities and culminates in a worksheet that challenges students to apply these principles to real-world scenarios.

🗨 View Chat

1 source

Start typing...



* Notebook guide

NotebookLM may still sometimes give inaccurate responses, so you may want to confirm any facts independently.

AI as a Podcast Notebook LM



ChatGPT can “See”

- Take a pictures with your device and AI will tell you what it sees.
- Personal uses
 - Take a picture you want to sell on eBay and let ChatGPT write the ad
 - Take a picture of your refrigerator and ask what is keto-friendly.



ChatGPT Vision – Workforce Implications

Radiology Report Generation

Prompt: Write a radiology report for this image as an expert radiologist.

GPT-4V - Radiology Report

Exam: Abdominal x-ray

History: Patient presents with abdominal pain and distention

Findings: The abdominal x-ray demonstrates a dilated stomach and small bowel loops, suggestive of a partial small bowel obstruction. There is also a small amount of air in the rectum. No free intraperitoneal air or pneumoperitoneum is noted. The liver, spleen, and kidneys appear unremarkable.

Impression: Findings are suggestive of a partial small bowel obstruction. Further imaging studies and clinical correlation are recommended.

Evaluation from Professionals: Correct study identification, correct diagnosis

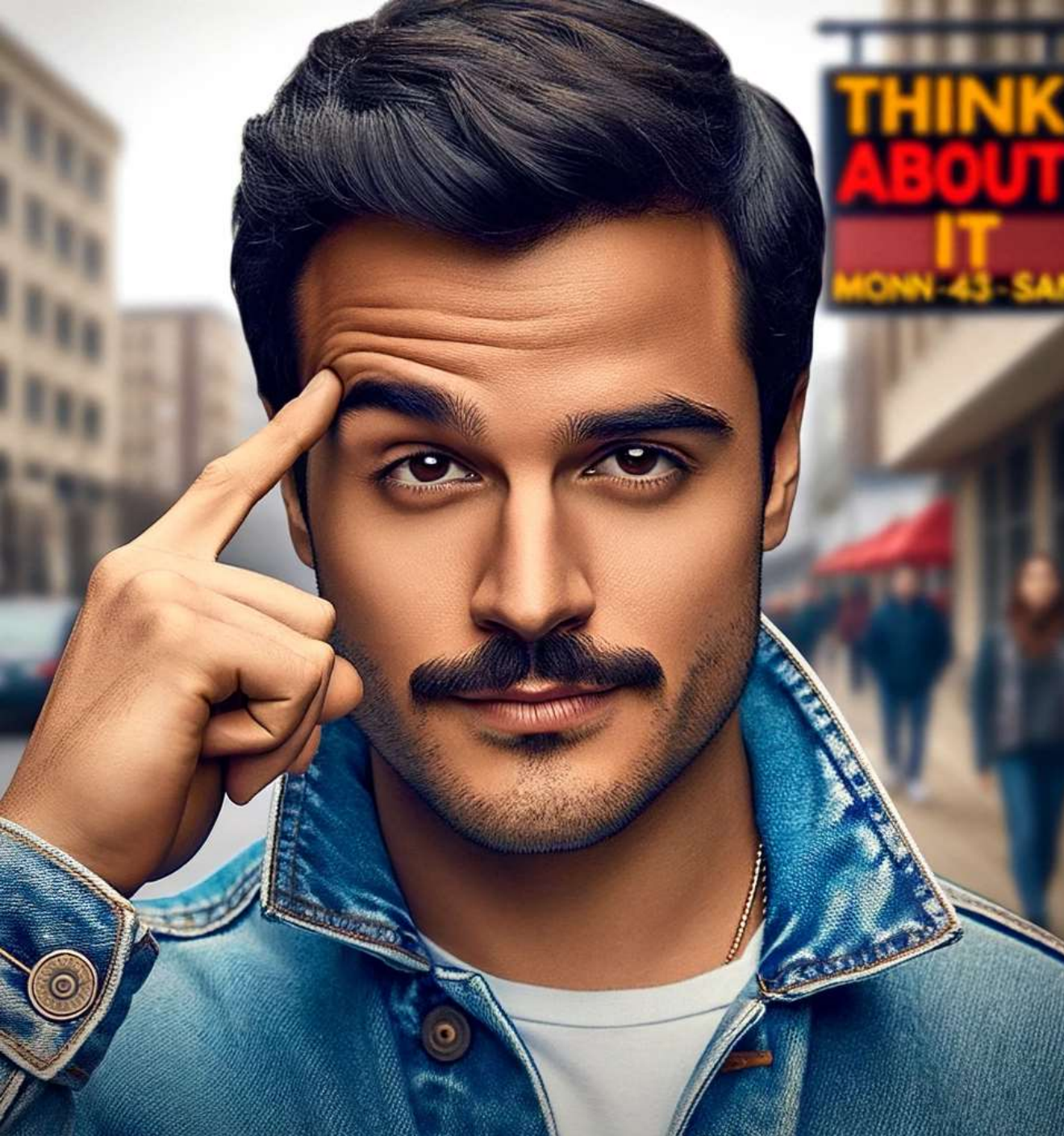
Source: arXiv/2309.17421



Facebook Market Place



- Use the attached photo to create a Facebook Market place ad for this old lawnmower that doesn't crank. I am asking \$150.
- Someone is asking for \$150 for the lawnmower in this image, is it a good deal?

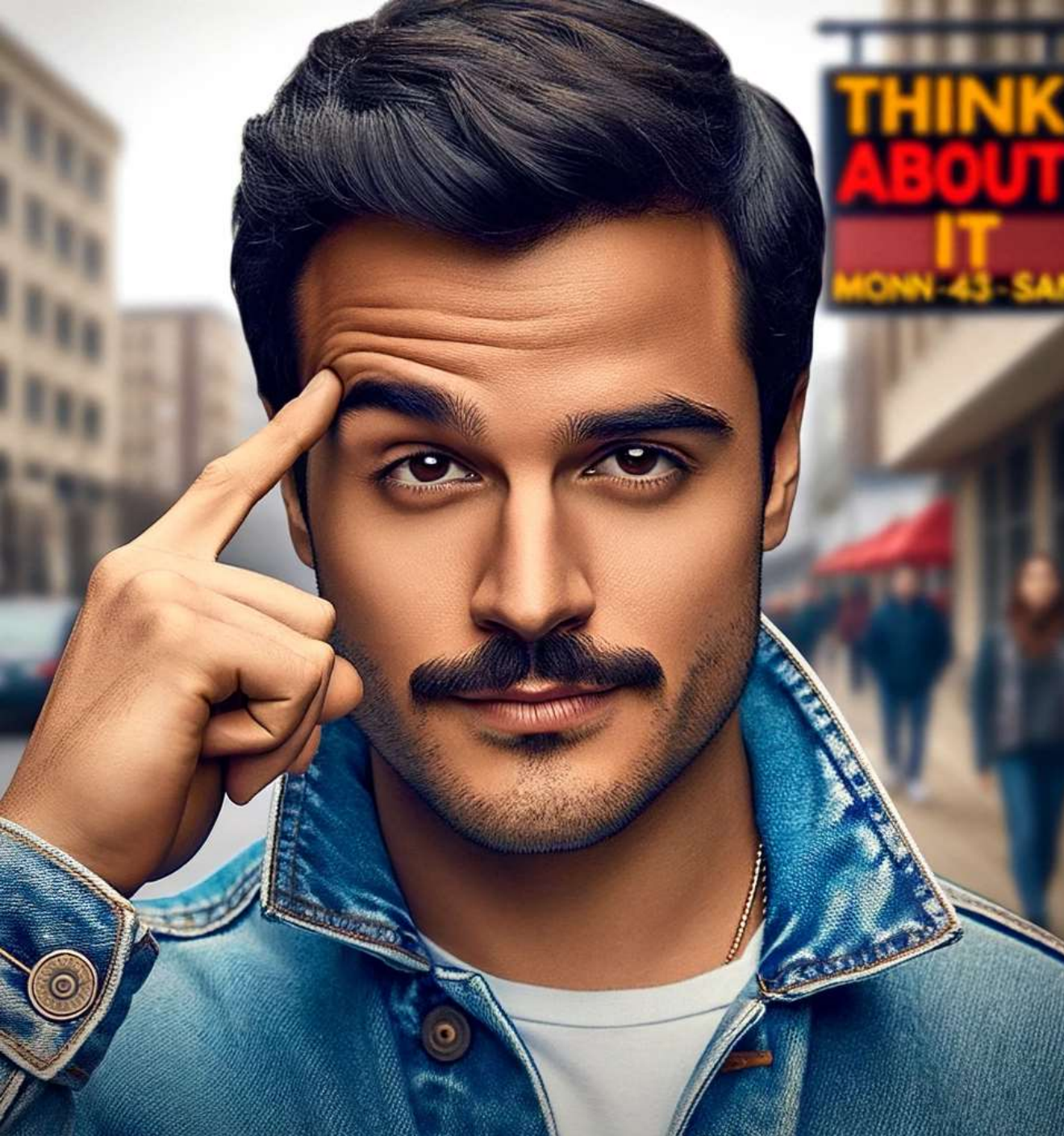


Think Like an LLM

LLMs predict the next most probable word or token in a sequence based on patterns learned from extensive training data.

Now, let's try it, too.

Once upon a _____

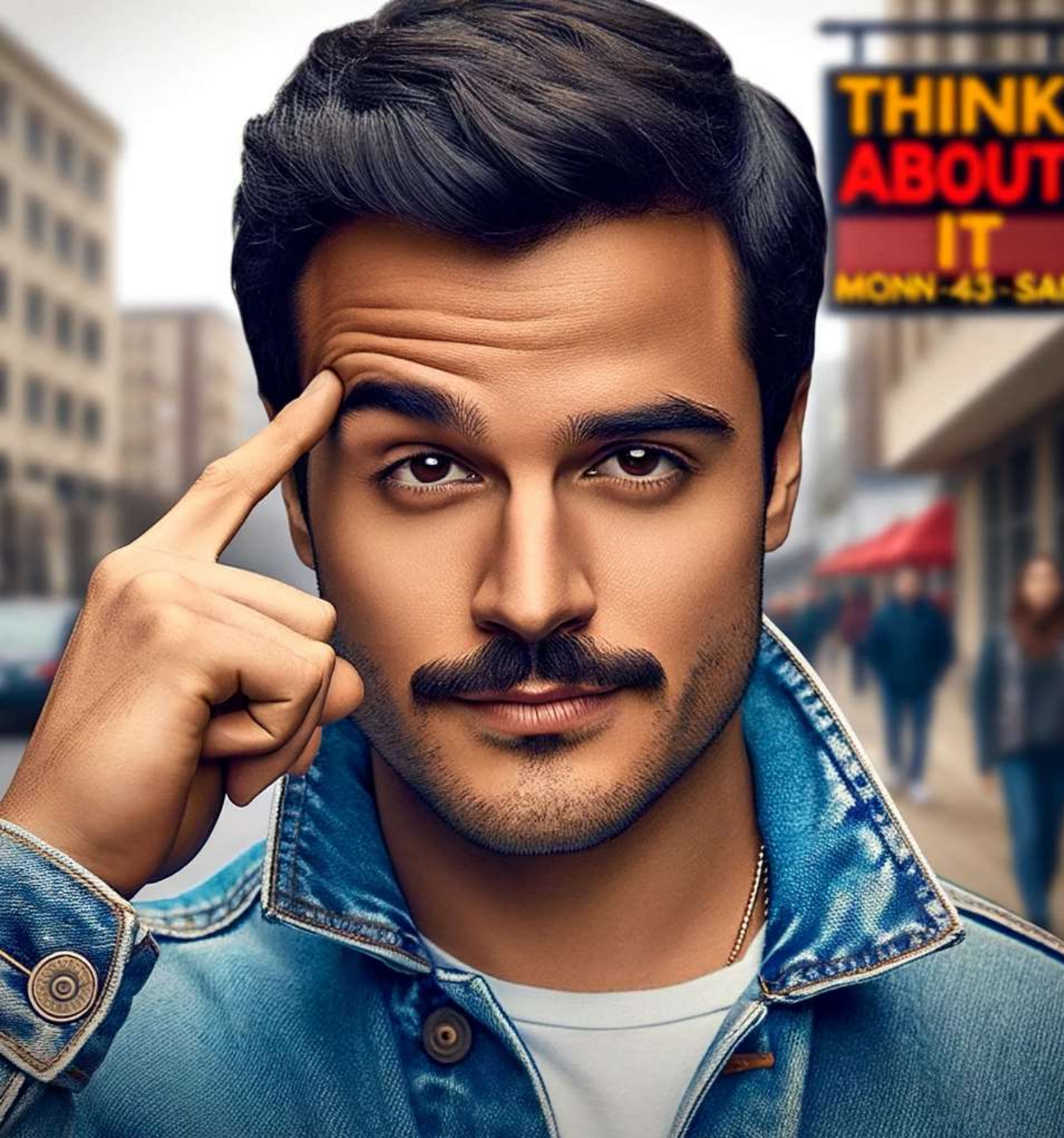


Think Like an LLM

LLMs predict the next most probable word or token in a sequence based on patterns learned from extensive training data.

Now, let's try it, too.

In the heart of _____



Think Like an LLM

- Just like our brains predict words based on experience, AI does the same using massive amounts of text data. **But unlike us, AI doesn't 'understand'**—it just calculates probabilities.
- Your brain predicted the most likely word based on past experience. This is exactly what AI does, but on a much larger scale.
- AI has been trained on billions of words, so when given a sentence, it calculates the probability of different possible next words and picks the most likely one.
- But just like some of you gave different answers, AI doesn't always choose the most common word—it assigns probabilities and sometimes picks a less common, but still valid, option.

To Reduce Hallucinations, Give Models Time to Think

In less than 5 seconds, solve this math problem

$$2 + 2 = \underline{\hspace{2cm}}$$

To Reduce Hallucinations, Give LLMs Time to Think

In less than 5 seconds, solve this math problem.

Solve for X:

$$2x - 4 = 3x - 2$$

Go to Chat.com

Login to *ChatGPT* to remember your chat history.



[Go to Chat.com](https://chat.com)

Prompt

“Act as a NC Historian. Create a 5-slide presentation outline on the history of Morehead City, NC. Each slide: 5 bullets, max 10 words per bullet.”

[Go to Chat.com](#)

Prompt

“Write a transcript for each slide in the presentation.”

Go to Chat.com

Prompt

“Create an image for slide ____”

Or

“Create an image that (describe the image)”

Assign Personalities to AI

Examples:

- Guidance Counselor
- Administrative Assistant
- Lawyer
- Socratic Tutor
- Coupon Expert – (Search for Promo Codes)

Prompt Writing Tips - RICCE



Role – Tell AI to “Act as a”



Instructions – Tell it what you want it to do.



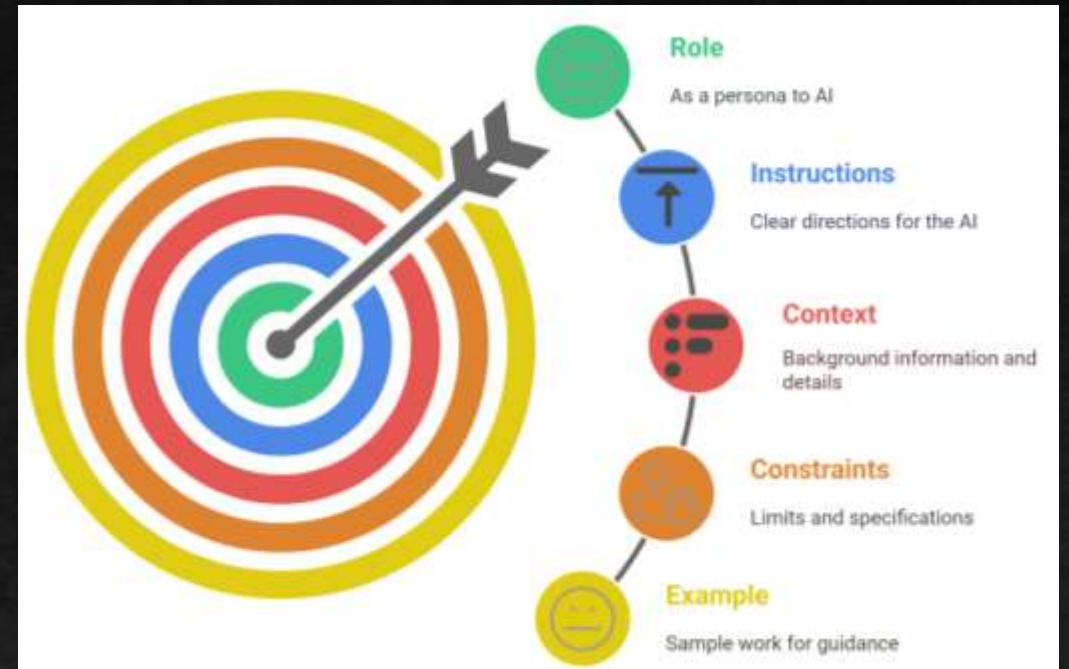
Context – Provide context of what you are working on, your role at the System Office



Constraints – How many words, slides, bullets per slide, words per bullet, Lexile level, etc.

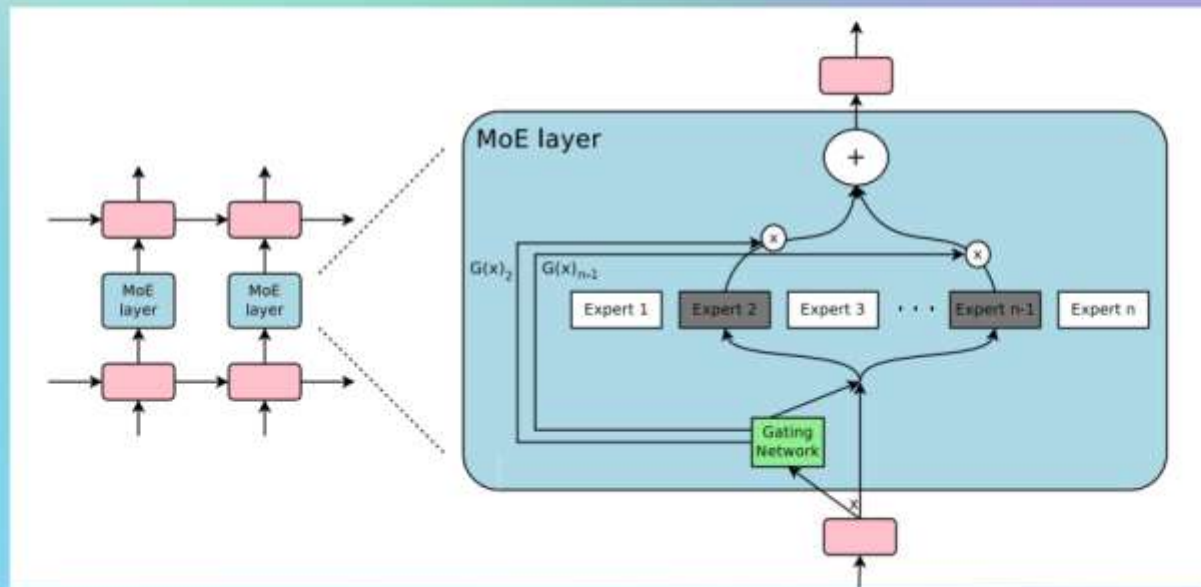


Example – Share an example of what you have done in the past and the output will match the example.



Why assigning a “Role” is important

Hugging Face explains **Mixture of Experts (MoE)**



Use AI to breakdown simple complicated concepts

Prompt 1:

“Explain to me what “Mixture of Experts” is as it relates to Large Language Models”

Use AI to breakdown simple complicated concepts

Prompt 2:

“Help me understand this topic by explaining it to me like I am 5th grader that enjoys [Insert Hobby/Interest here]”

Create a Weekly Meal Plan

Prompt 1:



Act like a meal planner. Create a weekly dinner menu using [preferred food/diet] as the main ingredient.

Prompt 2:

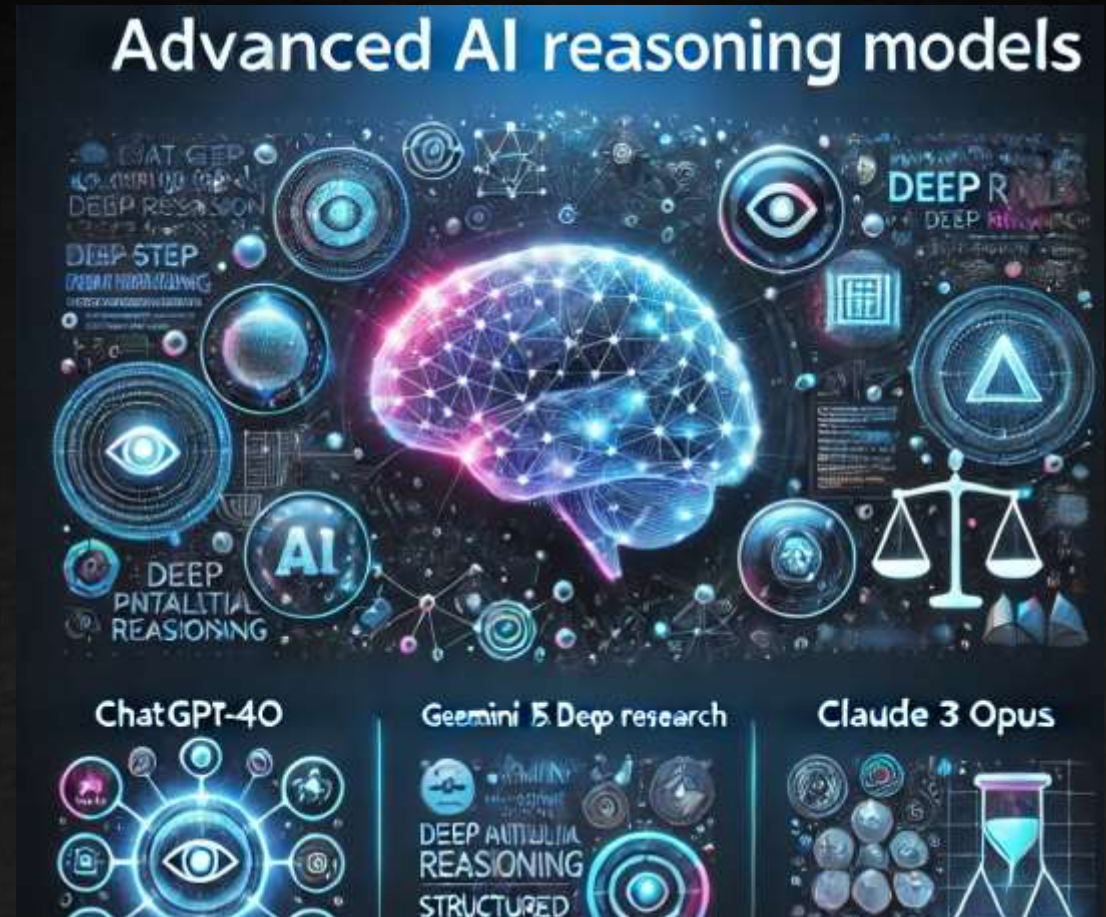
Create a recipe and step-by-step directions for Monday's Menu

Prompt 3:

Create a grocery list for Walmart Pickup for the dinner menu for two adults and two kids ages 12 and 8. Put this in a table format sorted by day.

Reasoning Models

- Reasoning Models analyze, infer, and adapt, going beyond pattern-based AI.
- They engage in multi-step logical reasoning and real-time problem-solving.
- Unlike traditional AI, they interpret ambiguous queries and provide contextual understanding.
- They enhance decision-making by weighing multiple factors dynamically.
- Ex. ChatGPT o1, Gemini Deep Research, Claude Opus, Deepseek R1



Reason models fact check

- From this search, the first result is "Community Colleges Unite to Scale AI Education and Workforce Development" from New America, which seems very relevant.
- 🌐 Browsing newamerica.org for "**designing AI-specific courses for workforce needs**"
- Some links are broken, so I'm checking if I can find the full article or PDF. The URL seems correct, but the page isn't accessible right now.
- 🌐 Browsing cset.georgetown.edu for "**designing AI-specific courses for workforce needs**"
- Again, it points to the same New America article that seems to be inaccessible

Large Language Model Platforms

- OpenAI's ChatGPT 4o
- Bing's Copilot
- Anthropic's Claude
- Meta's Llama
- Google Gemini
- Perplexity.ai
- Grok 3

